

**STATEMENT OF
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BEFORE THE
COMMITTEE ON SCIENCE
U.S. HOUSE OF REPRESENTATIVES**

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Mr. Chairman and Members of the Committee, thank you for the opportunity to describe the Environmental Protection Agency's (EPA) role in combating bioterrorism and the Agency's research and development activities as part of its overall mission to protect human health and the environment. I am pleased to say that EPA's efforts to meet its counterterrorism obligations are consistent with the President's statement that combating terrorism and protecting the nation's critical infrastructures are a high priority for his Administration.

INTRODUCTION

There are several Presidential Decision Directives (PDDs) that specify a role for EPA in counterterrorism activities. PDD 39 assigned EPA the task of assisting the FBI during crisis management in threat assessments and determining the type of hazards associated with releases or potential releases of materials in a terrorist incident. EPA, as the lead agency for Hazardous Materials Response under Emergency Support Function (ESF) 10 of the Federal Response Plan, is also assigned to assist the Federal Emergency Management Agency, during consequence management with environmental monitoring, decontamination, and long-term site cleanup. PDD 62 reinforces our mission to enhance the nation's capabilities to respond to terrorist events. PDD 63 which addresses the

protection of America's critical infrastructure, named EPA the lead agency for water supply systems.

EPA is working with the drinking water community to protect the nation's drinking water supplies from terrorist attacks by assessing the security of drinking water systems and by sharing information in a secure way with water systems.

Under the provisions of PDD 62, signed by President Clinton in 1998, the EPA is assigned lead responsibility for cleaning up buildings and other sites contaminated by chemical or biological agents as a result of an act of terrorism. This responsibility draws on our decades of experience in cleaning up sites contaminated by toxins through prior practices or accidents.

In this testimony, I will describe EPA's cooperative role and interaction with other federal agencies and departments to deal effectively with threats to human health and safety from bioterrorism. I will also discuss our strategies and tools for sampling and remediation, touch on EPA's counterterrorism incident response activities, and conclude with a discussion of EPA's research and development activities.

SHARING SCIENTIFIC INFORMATION AMONG FEDERAL AGENCIES

Working with our federal partners, private sector experts, and drawing upon our considerable in-house expertise, EPA has been developing new methods and protocols, and standard operating procedures to deal with bioterrorism threats to the health and safety of the American people. And we have been doing so on a real-time basis. The speed of our response, however, has not been at the expense of sound science. Indeed, a team of science experts has been integral to our daily activities.

EPA's interagency involvement in scientific issues related to counterterrorism and critical infrastructure protection predate the events of September 11. Since 1998, EPA has been actively

involved in Interagency Research and Development Working Groups on both Critical Infrastructure Protection and Weapons of Mass Destruction. These groups, formed and chaired by the White House's Office of Science Technology Policy (OSTP), were created in response to PDDs 62 and 63. For several years, these groups have allowed federal agencies to work together to share information and to prepare the federal research and development programs and budgets for these topics. Representatives from the Office of Management and Budget's (OMB) National Security Office have been active participants in the working groups. More recently, these groups have served as fora for sharing scientific and technical information on threats, including anthrax. Scientific and technical representatives from civil, military, and intelligence agencies and departments have all been involved in this effort.

Over the past month, EPA has participated in government-wide meetings of chief agency and departmental counter-terrorism scientists. These meetings, convened and chaired by Dr. John Marburger, the Director of **OSTP**, were designed to help him fulfill his role as science consultant to Governor Ridge and the Office of Homeland Security. In late November, following the second of the senior science officials meetings, EPA was asked by OSTP to participate in a government-wide survey on counterterrorism science and technology, which is intended to facilitate interagency cooperation in these areas. This exercise is currently being conducted by the RAND Corporation at the request of Dr. Marburger.

In order to develop a comprehensive, coordinated plan to deal with bioterrorism, including the area of research and development, the Administrator has assembled a Homeland Security Working group that includes representatives from each EPA program office and region. This work group is in

the process of drafting an EPA strategy for homeland security that includes a plan for bioterrorism using the Agency's Scientific Advisory Board (SAB) and other advisory committees to the Agency to develop research related to bioterrorism.

EPA established and maintains a National Incident Coordination Team (NICT) to assure full agency coordination of all emergency preparedness and response activities including counterterrorism. In the regions, the Agency's first responders are the On-Scene Coordinators (or OSCs). The OSCs have been actively involved with local, state, and federal authorities in preparing for and responding to threats of terrorism. EPA's OSCs, located throughout the U.S. have broad response authority and a proven record of success in responding rapidly to emergency situations.

SHARING FEDERAL EXPERTISE TO DEVELOP REMEDIATION STRATEGIES

We have developed extraordinarily strong working relationships with numerous federal partners in developing the appropriate health and safety standards and in conducting our sampling work. We have worked very closely with the Centers for Disease Control and Prevention (CDC) and the Agency for Toxic Substances and Disease Registry (ASTDR) in the Department of Health and Human Services in the areas of sampling strategy, remediating processes and criteria for judging a remediation process to be effective. In particular, the National Institute for Occupational Safety and Health (NIOSH) within CDC has been extremely helpful as has been the Department for Labor's Occupational Safety and Health Administration (OSHA) in providing EPA expertise in the area of worker protection, both for response operations and in establishing cleanup goals. We also appreciate the input from the Department of Defense, particularly the Center for Health Promotion and Preventive Medicine and United States Army Medical Research Institute for Infectious Diseases. The Coast Guard and Marines have assisted with sampling and cleanup. Finally, the District of Columbia government has provided invaluable expertise and assistance in involving the community. The advice provided

by these agencies has been invaluable in our efforts to develop specific remediation plans for buildings in the Capitol complex.

Within EPA, we are conducting a thorough review of specific clean-up technologies. Specifically, our Office of Solid Waste and Emergency Response, the Office of Pesticides, our Emergency Response Team out of Edison, NJ, the Emergency Operations Center here in Washington, and the legion of responders from across the country led by our folks from Region III, have all played important roles in this effort.

From our review, we have determined that a number of liquid and foam applications are effective at actually killing spores. Sandia Foam is a patented product, developed by the Sandia Labs, that we have been able to use on a number of surfaces. Similarly, chlorine dioxide in a liquid form, has been an extremely effective sporocide. We know these techniques work because we have used them in a number of areas. To address airborne particles, HEPA (high efficiency particulate air) filter vacuums are able to capture particles down to less than one-half micron in size. We have resampled these areas after using these techniques and they have come back clean. The Agency continues to work closely with other federal agencies, emergency response teams, and independent experts to develop effective remediation tools. On the basis of site specific information, EPA recommends proper methods of decontamination including which antimicrobial or other substances will be used. EPA has also established a hotline for vendors who believe they have products that could effectively treat anthrax and has begun daily briefings to establish routine communication between on-site personnel and key centers within the Agency who oversee and/or support them. EPA laboratories are assisting in testing samples from potentially contaminated sites and

the evaluation of antimicrobial products for effectiveness against anthrax has been made a top priority. In addition, EPA is using its experience in this situation to develop approaches to handling future biological and chemical exposures should they occur.

EPA is responsible for registering pesticides, including antimicrobial products used to treat anthrax spores, prior to their marketing in the U.S. Before issuing a pesticide registration, the Agency reviews a significant body of data to determine whether use of that pesticide will result in unreasonable adverse effects to humans or the environment. These data can include information on short- and long-term toxic effects and examine the potential for exposure under expected application scenarios. For pesticides that have public health uses, such as those used on anthrax spores, EPA also critically evaluates their efficacy. Under emergency conditions, EPA may allow a new use of a previously registered pesticide or use of an unregistered pesticide where the Agency has sufficient data to make a safety finding. These decisions can often be made quickly, based on the data that EPA receives and reviews.

Responding to the anthrax contamination has presented some unique challenges for EPA. For example, currently there are no registered pesticides approved for use against anthrax. Since the beginning of the anthrax-contamination events, EPA has been working hard to identify and evaluate existing pesticide products that are sporicidal, that is, those that kill spore-forming bacteria, even though such products may not have been tested on anthrax per se. Since October, the Agency has approved three pesticide products for treating anthrax spores under emergency exemption provisions of existing pesticide laws – the aqueous solution of chlorine dioxide, the chlorine dioxide fumigant, and a foam used to treat anthrax-contaminated surfaces. We have

identified several potential chemicals and new technologies which may be effective against anthrax.

The tools in our toolbox are growing rapidly. Each method, though, will have to prove its effectiveness before we add it to our Standard Operating Procedures. And that proof will come from confirmation samples that are taken after remediation is complete and come back demonstrating no threat to human health.

EPA'S COUNTERTERRORISM INCIDENT RESPONSE ACTIVITIES

As EPA continues to strengthen its counterterrorism program by building on the existing national response system for hazardous materials (hazmat) prevention, preparedness, and response, the Agency is involved in a variety of activities with federal, state, and local officials that include: responding to terrorism threats; pre-deploying for special events; planning, coordination, and outreach; and training and exercises. Most recently, EPA was asked to chair the Security and Safety of U.S. Facilities Group of the National Security Council's Policy Coordinating Committee for Counterterrorism and National Preparedness.

EPA'S RESEARCH AND DEVELOPMENT ACTIVITIES

The recent bioterrorism attacks have generated many scientific and technical issues that remain unresolved. EPA is actively involved in efforts to improve the nation's ability to detect, prevent, respond to, and remediate the damage resulting from bioterrorist attacks or future threats. EPA is providing scientific expertise and advice for the monitoring and risk assessment efforts at the World Trade Center (WTC). In addition, EPA continues to provide scientific expertise and guidance on biological testing and risk assessment and risk management efforts, as needed.

To support current and future homeland security needs, EPA is examining the possibility of expanding its biological testing capabilities. EPA's laboratory in Cincinnati is capable of

conducting anthrax and other biological agent tests. EPA is working closely with CDC to make sure we are fully prepared for potential future biological testing needs.

In collaboration with CDC and other federal agencies, EPA is developing a “State of Knowledge” report that addresses: (1) the chemical and biological threats to water; (2) capabilities for detecting these threats; and (3) the ability of treatment to mitigate these threats. EPA is in the process of planning, designing and revising research needed to support Agency efforts to better prevent and manage terrorist response activities. For example, EPA is working on developing rapid detection methods for biological agents. Finally, EPA is supporting efforts to address scenario-based future risks.

CONCLUSION

September 11th has changed the world in which we live. EPA continues to rely on sound science and effective treatment techniques to address incidents of bioterrorism. We are proud to be a part of a massive public-private effort to meet the challenges of this new world.

Thank you for the opportunity to appear before you today. I would be happy to answer any questions that you may have.